AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. – 10. (Cancelled)

11. (Currently Amended) ~~The method as claimed in claim 7~~A method of fabricating a layer on a substrate, the method comprising:

forming the layer, the step of forming the layer including using carbon dioxide; and

the step of forming the layer including depositing a sulphur-containing compound that includes a moiety represented by the formula:

$Y\text{-}(CF_2)_m\text{-}CF_2\text{-}(CH_2)n\text{-}CH_2\text{-}X$,

where X is sulphur,

Y is a functional group,

m and n denote a number of fluorinated and non-fluorinated carbon atoms, respectively, and

~~wherein~~ m and n lie within the range of 1 to 20.

12. (Previously Presented) The method as claimed in claim 11, wherein m and n lie within the range of 5 to 10.

13. (Previously Presented) The method as claimed in claim 12, where m is 8 and n is 10.

14. (Currently Amended) The method as claimed in claim [[~~7~~]] 11, wherein Y further includes at least one of vinyl, styryl, acryloyl, methacryloyl ~~or~~ and alkyne in combination with a spacer group.

15. (Currently Amended) The method as claimed in claim 14, wherein the spacer group includes at least one of CH_2 ~~or~~ and CF_2.

16. (Currently Amended) The method as claimed in claim 11, wherein the substrate includes at least one of ~~glass, mica, SiO_2, Al_2O_3, Ga_2O_3 or ITO~~ gold, silver, copper, iron, mercury, palladium, gallium arsenide, ferrous oxide, and indium tin oxide.

17. (Currently Amended) ~~The method as claimed in claim 16, wherein the substance includes a semi-fluorinated silane derivative of the formula:~~

~~Y~~

~~/~~

~~$[F_2C]_m$~~

~~\~~

~~CF_2~~

~~/~~

~~$[H_2C]_n$~~

~~\~~

~~CH_2~~

~~/~~

~~Si~~

A method of fabricating a layer on a substrate, the method comprising:

forming the layer, the step of forming the layer including using carbon dioxide; and

the step of forming the layer including depositing a silicon containing compound that includes a moiety represented as the formula:

$Y\text{-}(CF_2)_m\text{-}CF_2\text{-}(CH_2)_n\text{-}CH_2\text{-}Si$,

where Y ~~includes~~ is a functional group; ~~and~~

m and n denote respectively the number of fluorinated and non-fluorinated carbon atoms, respectively; and

m and n lie within the range of 1 to 20.

18. (Currently Amended) The method as claimed in 17, wherein the compound has an alkoxy group on the Si atom ~~includes a trialkoxy derivative~~.

19. (Currently Amended) The method as claimed in claim 18, wherein the compound has a chlorine atom on the Si atom ~~includes at least one of $SiCl_3$, $Si(OCH_3)_3$, $Si(OCH_2CH_3)_3$, $Si(OCH_3)_2Cl$ or $Si(CH_2CH_3)_2Cl$~~.

20. (Previously Presented) The method as claimed in claim 17, wherein Y includes a CF_3 functional group.

21. (Currently Amended) The method as claimed in claim 17, wherein ~~m and n lie within the range of 1 to 20~~ the substrate includes at least one of glass, mica, SiO_2, Al_2O_3, Ga_2O_3, and ITO.

22. (Previously Presented) The method as claimed in claim 21, wherein m and n lie within the range of 5 to 10.

23. (Previously Presented) The method as claimed in claim 22, wherein m is 6 and n is 1.

24. (Currently Amended) The method as claimed in claim 17, wherein Y further includes at least one of vinyl, styryl, acryloyl, methacryloyl, and ~~or~~ alkyne in combination with a spacer group.

25. (Previously Presented) The method as claimed in claim 24, wherein the spacer group includes at least one of CH_2 or CF_2.

26. (Currently Amended) The method as claimed in claim 11, wherein the layer has an ellipsometry thickness of about 30Å and a water contact angle of about 110°.

27. – 30. (Canceled)

31. (NEW) The method as claimed in Claim 17, wherein the layer has an ellipsometry thickness of about 30Å and a water contact angle of about 110°.

32. (NEW) The method according to claim 11, the step of forming the layer including using a supercritical condition.

33. (NEW) The method of claim 11, the step of forming the layer including using a co-solvent in combination with carbon oxide.

34. (NEW) The method as claimed in claim 33, wherein the co-solvent comprises at least one of H_2O, CH_3OH, CF_3OH, CF_3CH_2OH, CF_3CF_2OH, $(CF_3)_2CHOH$, CH_4, C_2H_4, C_2F_6, CHF_3 $CCIF_3$, C_2H_6, SF_6, propylene, propane, NH_3, pentane, $^{i}PrOH$, MeOH, EtOH, $^{i}BuOH$, benzene, and pyridine.

35. (NEW) The method according to claim 17, the step of forming the layer including using a supercritical condition.

36. (NEW) The method according to claim 17, the step of forming the layer using a co-solvent in combination with carbon oxide.

37. (NEW) The method as claimed in claim 36, wherein the co-solvent comprises at least one of H_2O, CH_3OH, CF_3OH, CF_3CH_2OH, CF_3CF_2OH, $(CF_3)_2CHOH$, CH_4, C_2H_4, C_2F_6, CHF_3 $CCIF_3$, C_2H_6, SF_6, propylene, propane, NH_3, pentane, $^{i}PrOH$, MeOH, EtOH, $^{i}BuOH$, benzene, and pyridine.